LAPORAN AKHIR

PROYEK

LOGIN – USER – ROLE - PERMISSION

DisusunOleh:

Nama : 11117320

NPM : Chantika Amanda

Kelas :

LEMBAGA PENGEMBANGAN KOMPUTERISASI

UNIVERSITAS GUNADARMA

2022

DAFTAR ISI

DESKRIPSI LAPORAN

LOGIN – USER – ROLE - PERMISSION

Pada pertemuan 4 laporan berisikan cara membuat login, user, role dan juga permission selain itu juga mengenai cara memodifikasi login, user, role dan juga permission

TAHAPAN PENGERJAAN

1. RingkasanMateri

Login merupakan kepala dari suatu sistem keamanan atau sebuah entitas yang dapat di konfirmasi oleh sistem keamanan. Setiap pengguna harus melakukan login untuk bisa terkoneksi ke dalam SQL server

User adalah bagian dari database level security. Login harus terhubung dengan database user untuk saling terhubung. Login dapat terhubung dengan database yang berbeda sebagai pengguna yang berbeda tapi bisa juga hanya terhubung dengan satu pengguna pada masingmasing database. User dapat dibuat tanpa harus memiliki login

Gunakan role didalam SQL Server untuk mengelola permission secara efisien. Memberikan permission untuk role, kemudian menambah dan menghapus user serta login untuk role. Dengan menggunakan role, permission tidak harus di atur secara individual untuk setiap pengguna.

SQL Server mendukung 4 tipe role, yaitu :

- Fixed server roles
- User-defined server roles
- Fixed database roles
- User- defined database roles

Berikut adalah jenis-jenis role untuk fixed server-level role :

FIXED SERVER-LEVEL ROLE	DESCRIPTION
sysadmin	Members of the **sysadmin** fixed server role can perform any activity in the server.
serveradmin	Members of the **serveradmin** fixed server role can change server-wide configuration options and shut down the server.
securityadmin	Members of the **securityadmin** fixed server role manage logins and their properties. They can `GRANT` , `DENY` , and `REVOKE` server-level permissions. They can also `GRANT` , `DENY` , and `REVOKE` database-level permissions if they have access to a database. Additionally, they can reset passwords for SQL Server logins. **IMPORTANT:** The ability to grant access to the Database Engine and to configure user permissions allows the security admin to assign most server permissions. The **securityadmin** role should be treated as equivalent to the **sysadmin** role.
processadmin	Members of the **processadmin** fixed server role can end processes that are running in an instance of SQL Server.
setupadmin	Members of the **setupadmin** fixed server role can add and remove linked servers by using Transact-SQL statements. (**sysadmin** membership is needed when using Management Studio.)
bulkadmin	Members of the **bulkadmin** fixed server role can run the `BULK INSERT` statement.
diskadmin	The **diskadmin** fixed server role is used for managing disk files.
dbcreator	Members of the **dbcreator** fixed server role can create, alter, drop, and restore any database.
public	Every SQL Server login belongs to the **public** server role. When a server principal has not been granted or denied specific permissions on a securable object, the user inherits the permissions granted to public on that object. Only assign public permissions on any object when you want the object to be available to all users. You cannot change membership in public. **Note: public** is implemented differently than other roles, and permissions can be granted, denied, or revoked from the public fixed server roles.

Berikut adalah jenis-jenis role untuk fixed database roles :

FIXED-DATABASE ROLE NAME	DESCRIPTION
db_owner	Members of the **db_owner** fixed database role can perform all configuration and maintenance activities on the database, and can also drop the database in SQL Server. (In SQL Database and SQL Data Warehouse, some maintenance activities require server-level permissions and cannot be performed by **db_owners**.)
db_securityadmin	Members of the **db_securityadmin** fixed database role can modify role membership and manage permissions. Adding principals to this role could enable unintended privilege escalation.
db_accessadmin	Members of the **db_accessadmin** fixed database role can add or remove access to the database for Windows logins, Windows groups, and SQL Server logins.
db_backupoperator	Members of the **db_backupoperator** fixed database role can back up the database.
db_ddladmin	Members of the **db_ddladmin** fixed database role can run any Data Definition Language (DDL) command in a database.
db_datawriter	Members of the **db_datawriter** fixed database role can add, delete, or change data in all user tables.
db_datareader	Members of the **db_datareader** fixed database role can read all data from all user tables.
db_denydatawriter	Members of the **db_denydatawriter** fixed database role cannot add, modify, or delete any data in the user tables within a database.
db_denydatareader	Members of the **db_denydatareader** fixed database role cannot read any data in the user tables within a database.

Berikut adalah jenis-jenis role untuk user defined database roles :

FEATURE	TYPE	DESCRIPTION
sp_helpdbfixedrole (Transact-SQL)	Metadata	Returns a list of the fixed database roles.
sp_dbfixedrolepermission (Transact-SQL)	Metadata	Displays the permissions of a fixed database role.
sp_helprole (Transact-SQL)	Metadata	Returns information about the roles in the current database.
sp_helprolemember (Transact-SQL)	Metadata	Returns information about the members of a role in the current database.
sys.database_role_members (Transact-SQL)	Metadata	Returns one row for each member of each database role.
IS_MEMBER (Transact-SQL)	Metadata	Indicates whether the current user is a member of the specified Microsoft Windows group or Microsoft SQL Server database role.
CREATE ROLE (Transact-SQL)	Command	Creates a new database role in the current database.
ALTER ROLE (Transact-SQL)	Command	Changes the name or membership of a database role.
DROP ROLE (Transact-SQL)	Command	Removes a role from the database.
sp_addrole (Transact-SQL)	Command	Creates a new database role in the current database.
sp_droprole (Transact-SQL)	Command	Removes a database role from the current database.
sp_addrolemember (Transact-SQL)	Command	Adds a database user, database role, Windows login, or Windows group to a database role in the current database. All platforms except Parallel Data Warehouse should use `ALTER ROLE` instead.
sp_droprolemember (Transact-SQL)	Command	Removes a security account from a SQL Server role in the current database. All platforms except Parallel Data Warehouse should use `ALTER ROLE` instead.
GRANT	Permissions	Adds permission to a role.
DENY	Permissions	Denys a permission to a role.
REVOKE	Permissions	Removes a previously granted or denied permissions.

Owner basis data, member dari sysadmin, dan member dari securityadmin dapat memberikan akses basis data, dan hak akses yang diberikan meliputi :

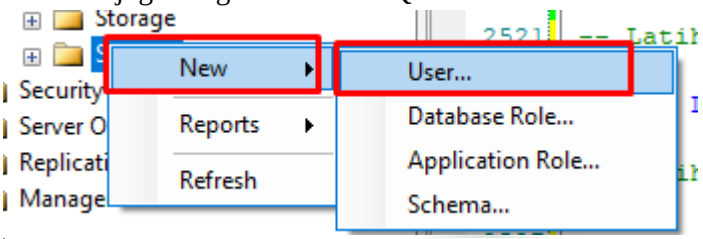
- Grant Grant merupakan perintah yang digunakan untuk memberikan hak akses. Dengan role, semua member dari role akan mendapatkan hak akses
- Revoke Revoke merupakan perintah yang digunakan untuk menghapus hak akses. Menghilangkan hak akses GRANT.
- Deny

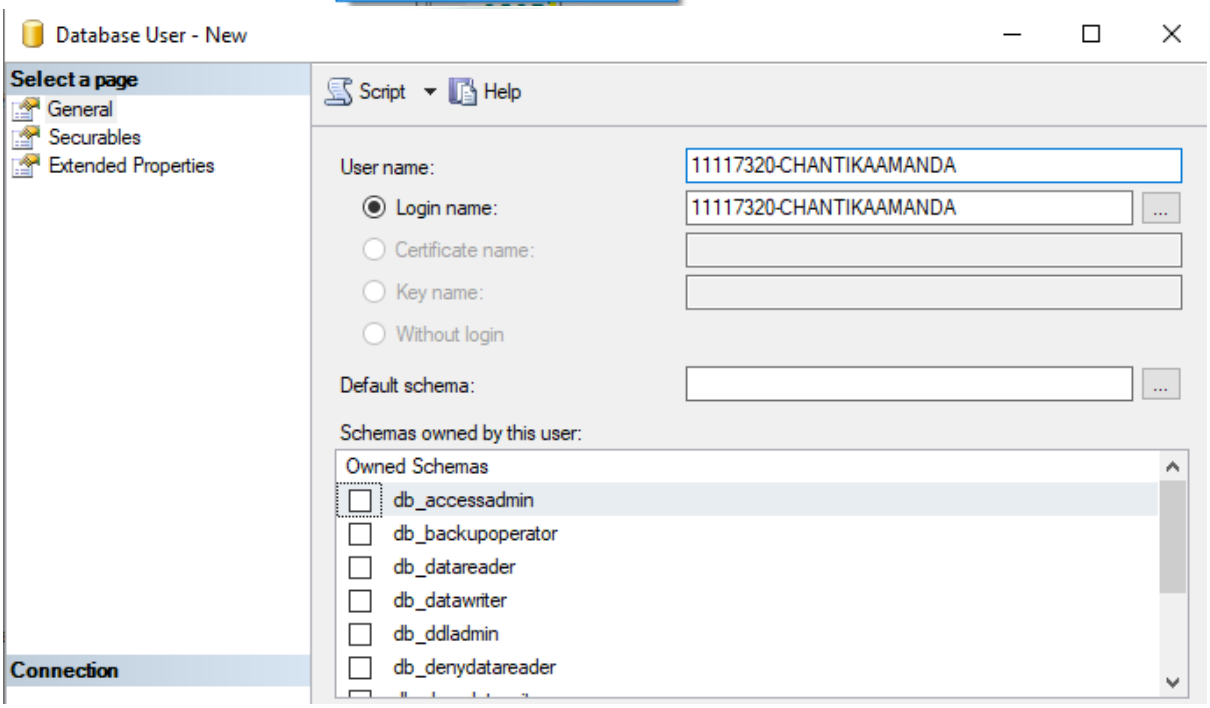
2. Langkah-Langkah

1. Buat Login dengan nama CHANTIKAAMANDA dan Password NPM

```
CREATE LOGIN CHANTIKAAMANDA WITH PASSWORD = '11117320';
```

2. Buat User dengan melalui SSMS Click kanan pada Security dalam Database lalu New -> User dan juga dengan Transact SQL lalu buat table BIODATA






```
CREATE USER CHANTIKAAMANDA-11117320 FOR LOGIN CHANTIKAAMANDA;
```

```
529  -- Table BioData
530
531  CREATE TABLE BIODATA (
532      NPM NUMERIC(8) PRIMARY KEY,
533      NAMA VARCHAR(50) NOT NULL,
534      KELAS VARCHAR(5) NOT NULL,
535      JURUSAN VARCHAR(30) NOT NULL
536  )
```

3. Buat Role dengan Nama dan Role securityadmin lalu berikan access SELECT, INSERT, UPDATE, DELETE pada table BIODATA yang dibuat sebelumnya
Sebutkan empat macam jenis-jenis role yang biasa digunakan dalam basis data di SQL Server

SQL Server mendukung 4 tipe role, yaitu :

1. Fixed server roles
2. User-defined server roles
3. Fixed database roles
4. User-defined database roles

```
-- Latihan Role

CREATE ROLE chantikamanda AUTHORIZATION securityadmin

GRANT SELECT, INSERT, UPDATE, DELETE
ON SCHEMA::BIODATA
TO chantikamanda;
```

```
INSERT INTO BIODATA VALUES ('12345678', 'Ani Budi Citra', '2KA05', 'Sistem Informasi')
INSERT INTO BIODATA VALUES ('56789012', 'Dea Efani Fita Gita', '1IA01', 'Teknik Informatika')
INSERT INTO BIODATA VALUES ('34567890', 'Hari Irfandi Jonas', '3DB04', 'Manajemen Informatika')
INSERT INTO BIODATA VALUES ('23456789', 'Kamia Lana Musa', '4KB02', 'Sistem Komputer')
INSERT INTO BIODATA VALUES ('45678901', 'Nando Oprah Prawira', '2DC03', 'Teknik Komputer')

-- Tugas SQL Injection
```

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
```

PENUTUP

1. Kesimpulan

Pada praktikum ini telah mempelajari mengenai Login, User, Role, Permission dan juga mempraktekannya dengan membuat Login, User, Role dan melakukan Set Permission

2. SaranPenulisan